

APEC EXPERT GROUP ON NEW & RENEWABLE ENERGY TECHNOLOGIES (EGNRET)

37th Meeting

Taipei, Chinese Taipei
22-26 August 2011

Introduction

The 37th meeting of the Expert Group on New and Renewable Energy Technologies (EGNRET) was held on August 22 to 23, 2011 in Taipei, Chinese Taipei. In addition to EGNRET 37, the APEC Workshop on Addressing Challenges in AMI Deployment and Smart Grid in APEC Region was held alongside the meeting on August 24 to 25, 2011 at Taipei International Convention Center (TICC). EGNRET members were also invited to attend the 2011 International Workshop on Microalgal Biofuel Technology being held at TICC on August 26, 2011.

The EGNRET 37 meeting was co-chaired by Dr. Hom-Ti (Tom) Lee of the Industrial Technology Research Institute (ITRI) and Mr. Jin-Sheng Su of the Bureau of Energy (BOE) at MOEA, Chinese Taipei. Representatives from Canada, Japan, Korea, Singapore, Chinese Taipei, Thailand, USA, APEC Secretariat, APERC, and Low Carbon Model Town Task Force (LCMT TF) participated in the meeting.

Dr. Lee welcomed the delegates and opened the meeting. Mr. Su then gave an official welcome to the delegates on behalf of Chinese Taipei. Following the welcome, a final agenda distributed by the Chair was reviewed and accepted.

Overview of New and Renewable Energy in Chinese Taipei

Mr. Yu-Chin Huang of the Bureau of Energy (BOE) at MOEA, Chinese Taipei gave a detailed overview of current Chinese Taipei's new and renewable energy utilization. Mr. Huang's presentation reviewed the energy situation, the sustainable energy policy, and the development of renewable energy in Chinese Taipei. He also introduced the implementation of current Master Plan on Energy Conservation and Emission Reduction.

Currently in Chinese Taipei, 99.4% of total energy supply was imported in year 2010 and most of the energy supply was fossil fuel which accounted for 91% of total energy supply. Therefore, the key to reduce imported energy supply and fossil fuels is to accelerate the development of indigenous energy supply, and to develop diversified energy supply system. To ensure energy security and maintaining environmental commitments, consensus was reached that the promotion of renewable energy is a no-regret energy policy in Chinese Taipei. In accordance with the Renewable Energy Development Act, the 6,500 MW to 10,000 MW target for the development of renewable energy is set up, and a fixed feed-in tariff mechanism is established, so as the purchase of renewable electricity will be guaranteed.

Till July, 2011, the total installed capacity of the renewable energy in Chinese

Taipei was 3,350 MW (7.9 TWh/year), including hydropower (1,975 MW), wind power (529.3 MW), Solar PV (45.5 MW), and biomass (798.5 MW). In addition, the total installed area of heat collectors for solar thermal water heaters was 2.10 million m², and the installation density ranked No. 5 in the world. Moreover, In July 2008, a biodiesel mandatory B1 program was also implemented. It means all diesel vehicles in Chinese Taipei shall be fueled 1% biodiesel blended with retail fossil diesel compulsorily. Chinese Taipei became the first economy in Asia to have introduced the use of biodiesel compulsorily. Now the mandatory B2 program is implemented since July 2010. Also, all government vehicles in Taipei and Kaohsiung City shall be fuelled with E3 gasohol compulsorily.

In May 2010, under the supervision of the committee on Energy Conservation and GHGs Emission Reduction, Chinese Taipei built up the Master plan on Energy Conservation and GHGs Emission Reduction, which covered all aspects of energy and climate policies. The Master Plan is implemented through action plans proposed by ministries. These action plans were merged into the Sustainable Energy Policy Action Plans, and were regularly reviewed together with other action plans under the supervision of the Council for Economic Planning and Development.

Mr. Huang finally concluded that promoting renewable energy can mitigate climate change, reduce impacts of high energy prices, and ensure the energy security. Therefore, Chinese Taipei will accelerate the promotion of renewable energy, and develop the renewable energy industry for improving social welfare. Moreover, the international cooperation is welcome to facilitate bilateral benefits.

Mr. Huang's detailed presentation is available on the EGNRET website at:

<http://www.egnret.ewg.apec.org/meetings/engret37/index.html>

Recent APEC Activities

The Chair briefed the participants on recent APEC activities and developments that occurred after the last meeting of the EGNRET on February 28 to March 4, 2011 in Washington, DC, USA.

The EWG has met once since EGNRET 36. The EWG 41 was held on May 9-13, 2011 in Vancouver, Canada. At EWG 41, the APEC Secretariat announced that the BMC has given final approval to fund eight EWG projects including one EGNRET project "Addressing Challenges of AMI Deployment in APEC" (proposed by Chinese Taipei). In addition, 5 projects endorsed by EWG for consideration in the second round of the 2011 APEC budget process, including one EGNRET project "Stock-take of Electric Vehicle Interface with Electricity and Smart Grids Across APEC Economies and the Potential for Harmonization" (proposed by New Zealand) (*This project has been approved by BMC recently.*)

At EWG 41, the Lead Shepherd reintroduced the Energy Smart Communities Initiative (ESCI) and discussed the four pillars: Smart Transport, Smart Buildings, Smart Grid, and Smart Jobs/Consumers which include fourteen projects. The US presented an update on plans for the APEC Transport and Energy Ministerial Conference (TEMC) which will be held in San Francisco, California on September 13, 2011. The Conference theme is Move APEC toward a Low-energy,

Low-carbon Sustainable Transport Future. Discussion items include the transportation vision for the future, energy-efficient urban passenger transport, energy-efficient freight transport, and alternative transport fuels.

At EWG 41, it was also reported that EWG 42 will be held in Kaohsiung, Chinese Taipei from 17-21 October 2011. EWG 42 will be immediately follow the LED lighting and PV workshops in Taipei, Chinese Taipei, from 12-14 October 2011. In addition, the Lead Shepherd, in accordance with SOM rules, proposed Russia as the Deputy Lead Shepherd. Russia expressed its gratitude and announced that it will host the tenth APEC Energy Ministers Meeting (EMM 10) in St. Petersburg, Russia in June 2012.

Progress on APEC Peer Review on Low-Carbon Energy Supply (PRLCE) and Energy Efficiency (PREE)

Asia-Pacific Energy Research Centre (APERC) president Mr. Kenji Kobayashi presented a detailed review of progress on APEC Peer Review on Low-Carbon Energy Supply (PRLCE) and Energy Efficiency (PREE).

Mr. Kobayashi first introduced the purpose, possible scope, and principles/criteria of PRLCE. He mentioned that the objectives of PRLCE are to assist volunteer APEC economies to voluntarily set individual goals to promote more energy and power supply from low-emission sources and to formulate actions to achieve the goals through peer review. The activities of PRLCE include (1) inviting APEC economy to voluntarily host the Peer Review, (2) defining scope of review, (3) reviewing team establishment, i.e., setting up an APEC expert team, (4) Prepare background information on renewable energy policies of the host economy, (5) reviewing team visit, and (6) drafting review report with recommendations.

The PRLCE Phase 1 will put its initial focus on renewable energy power supply. Malaysia will host the first Peer Review in early 2012, and the focus is national renewable energy policy and action plan. Later, Thailand will host the second Peer Review, and the focus is Alternative Energy Development Plan (2008 – 2022) on solar, wind, biomass and biogas. The expected outcomes are development of a review report and endorsement of the report with recommendations at an EWG meeting. Also the report will be published on the APERC website (<http://www.ieej.or.jp/aperc>). APEC funding is expected to be available for two additional economies to host PRLCE Phase 2 in 2012.

Mr. Kobayashi also introduced the progress on recent PREE activities. In 2009, the first four PREEs for New Zealand, Chile, Viet Nam and Thailand were undertaken. In 2010, the PREEs for Chinese, Taipei, Peru and Malaysia were undertaken in Phase 2. These reports are published on the APERC website (<http://www.ieej.or.jp/aperc>). The reports made a number of recommendations that have been welcomed by the participating economies, indentifying barriers – financial, technical (e.g., end-use data, experts, standards, monitoring and evaluation, product testing) and political. In summary, the survey found that all 7 economies (New Zealand, Chile, Viet Nam, Thailand, Chinese Taipei, Peru and Malaysia) have looked into the urgent need to expand their implementation of energy efficiency policies as well as development of incentives to encourage energy efficiency investment. In the near future, two economies, Indonesia and Philippines, have already volunteered to host PREEs in the fourth quarter of 2011

or the first quarter of 2012. The first follow up PREE will be hosted by Viet Nam in the February, 2012 to implement the recommendations from PREE. Also, APEC funding is expected to be available for additional economies to host PREE/Follow-up PREE in 2012.

Mr. Kobayashi finally invited economies to host future PREE/PRLCE to enable APEC economies to share experiences and knowledge, and learn high-performance strategies from their peers by setting goals, formulating action plans, and improving the effectiveness of current policies in promoting energy efficiency (EE) and low-carbon energy supply (LCES) (e.g., renewable energy) development, as well as providing useful recommendations for voluntary EE and LCES (e.g., renewable energy) implementations towards a more secure and sustainable energy future for APEC. Mr. Kobayashi emphasized that the participation by right experts, especially members of APEC expert groups, e.g., EGNRET is the important key to success.

Mr. Kobayashi's presentation is available on the website at:

<http://www.egnret.ewg.apec.org/meetings/engret37/index.html>

Overview of Low-Carbon Model Town (LCMT) Task Force Activities

Following APERC's presentation, Mr. Shinji Kakuno, Director for Natural Resources and Energy Research, Agency for Natural Resources and Energy, METI gave an overview of the APEC Low-Carbon Model Town (LCMT) Task Force activities. According to the Fukui Declaration at EMM 9, introducing low-carbon technologies in city' planning is essential to responding to increasing energy consumption in urban areas. A Low-Carbon Model Town Project then was launched to present "successful models for coordinated usage" of the advanced technologies. The model cities would feature development of the low-carbon strategy and comprehensive measures to achieve CO₂ reduction target on both demand and supply sides including a smart grid advanced power transmission network, buildings with facilities for renewable energy generation and introduction of the district heating and cooling system. Yujiapu Center Business District (CBD) Development Project, about 40 km east of Tianjin, China, was chosen as a case for the Low-Carbon Model Town Project Phase 1.

Mr. Kakuno introduced the overview of the LCMT project including three parts, i.e., the Feasibility Study of the Yujiapu CBD development project in Tianjin, the Concept of the Low-Carbon Town in the APEC Region, and the Policy Review. The major tasks of the Feasibility Study of the Yujiapu CBD development project in Tianjin included development of low-carbon strategy and analysis of basic data. The quantitative analysis contained each mitigation (CO₂ saving) effects and costs. The methods for CO₂ mitigation in Yujiapu CBD comprised the low-CO₂ building, DHC (district heating & cooling system), untapped energy, renewable energy, and AEMS (area energy management system. A future LCMT TF workshop which will be held alongside EWG 42 in Kaohsiung, Chinese Taipei on October 18, 2011 to reveal the project results. The final report of "APEC Low Carbon Model Town (LCMT) Project Tianjin Yujiapu Feasibility Study" (APEC #211-RE-01.8) now can be downloaded at

http://publications.apec.org/publication-detail.php?pub_id=1225

Mr. Kakuno's presentation is available on the website at:

<http://www.egnret.ewg.apec.org/meetings/engret37/index.html>

Member Economy Presentations: Current New and Renewable Energy Priorities in APEC Member Economies

The economy presentation topic for EGNRET 37 was "Current New and Renewable Energy Priorities in APEC Member Economies." The EGNRET has set this topic every two years to review the priorities on developing new and renewable energy technology in APEC economies. The last review program was at EGNRET 32 in April 2009 in Honolulu, Hawaii, USA. The meeting presentations are available on the website at:

<http://www.egnret.ewg.apec.org/meetings/engret37/index.html>

Invited Presentation

Professor Shu-Yii Wu of Feng Chia University (FCU), Chinese Taipei was invited to give a presentation about the outcomes of a self-funded project "APEC Research Network for Advanced Biohydrogen Technology" supported by the APEC Industrial Science and Technology Working Group (ISTWG). Prof. Wu mentioned that there are abundant biomass resources in Asia, and Asian economies possess world-leading biohydrogen technology with significant engagement in biohydrogen R&D. Therefore, the objective of establishing the APEC Network for Advanced Biohydrogen Technology is to develop an advanced technology of bio-hydrogen production and to organize a platform for the experts of bio-hydrogen technology from the APEC member economies. Prof. Wu also introduced the recent activities of the Network, including publishing the APEC biohydrogen newsletters, organizing the symposium, and conducting research and training courses at FCU. Currently FCU has constructed a non-food feedstock bio-hydrogen pilot plant with a capacity of 400 liters. More detailed information of the Network is available on the website at:

<http://www.apec-bioh2.org>

Completed EGNRET Projects

Two EGNRET projects have been completed recently, as described below. Also, two 2-page project summaries were developed and distributed at the EWG 41 meeting.

- **Addressing Grid-interconnection Issues in Order to Maximize the Utilization of New and Renewable Energy Sources (EWG 02/2009)**

This Japan-led project is examined grid-interconnection issues associated with large penetration levels of renewable energy. However, power output from new and renewable energy power sources like solar photovoltaics and wind turbines fluctuates depending on environmental conditions. When these new and renewable energy sources are connected to power grids, these fluctuations can negatively affect power grid frequencies, voltages, and harmonics. Because of

this, power utility companies often limit the amount of new and renewable energy that can be grid-interconnected. The aim of this project is to identify and summarize research that is being undertaken or solutions that have already been identified regarding issues that limit the amount of new and renewable energy that can be grid-interconnected, including a focus on energy storage solutions.

A report was issued to characterize the main issues with the integration of stochastic and only partially predictable renewable energy technologies into distribution networks, i.e., distributed generation (DG). It summarizes the approaches currently being used to address them, including research and development activities. It then identifies best practices in addressing these issues, including non-technical approaches. Also it outlines future research and development activities that may be required to fully integrate distributed generation into electricity networks of the 21st century. Finally it discusses the factors that influence the potential for applying best practices throughout the APEC region. In addition, a one day workshop for the project was held with this meeting on October 12, 2010 to review the draft final report and provide feedback to the project developers. The project was completed in 2010 and the final report and workshop presentations are available on the workshop's website at:

<http://www.egnret.ewg.apec.org/workshops/Grid-interconnection/index.html>

- **Using Smart Grids to Enhance the Use of Energy Efficiency and Renewable Energy Technologies (EWG 01/2009S)**

The objective of this U.S. self-funded project is to examine the status and potential within APEC economies of smart grid technologies to enhance the use of renewable energy and energy efficient buildings, appliances and equipment. The project is an initial activity of the APEC Smart Grid Initiative (ASGI). Smart grid concepts consider the integration of information and communication technologies to improve the management of the grid itself, enable the integration of energy efficiency and renewable energy technologies on either side of “the customer meter” (including “smart buildings”), and encourage the use of intelligent systems that support interactions between the electricity infrastructure and end-use systems in a more efficient and seamless fashion.

The findings indicate a great diversity of awareness of smart grid concepts and technology. Policy makers and service providers have an introduction to smart grid concepts at minimum, with some economies moving forward with smart grid roadmaps. However, customers are significantly less aware of smart grid capabilities and their benefits. While many service providers have some level of engagement with consumers to have load participate in meeting system operational needs, it is mainly confined to large industrial facilities. The engagement of end-use systems in demand response through real-time pricing signals or other incentives is low, with wealthier and more urban economies showing the most activity in this direction. Of all smart grid technology deployments, advanced metering infrastructure is receiving the most attention. While this is a logical first step in a roadmap of smart grid deployments that will enable other capabilities, it is only a start and addresses a small fraction of the potential benefits from implementing smart grid capabilities. Significantly more work will be needed to advance energy efficiency and support the integration of

significant amounts of renewable resources.

The project final report is available on the EGNRET website at:

<http://www.egnret.ewg.apec.org/reports/index.html>

EGNRET Current Project Update

The EGNRET is currently implementing one project, as described below.

- **Addressing Challenges of AMI Deployment in APEC (EWG 07/2011A)**
(Chinese Taipei lead, US\$ 59,586)

The 9th Energy Ministerial Meeting (EMM 9) in 2010 instructed EWG to start an APEC Smart Grid Initiative (ASGI) to evaluate the potential of smart grids to support the integration of intermittent renewable energies and energy management approaches in buildings and industry. Advanced Metering Infrastructure (AMI) is a foundation enabling technology for the Smart Grid. Many countries in the worldwide announce and start their AMI programs. However, it seems many issues are needed to overcome. These issues include policy, meter reliability, information security, customer education, and so on. This project will investigate the development strategies and current status of AMI in all APEC economies, and provide recommendations for AMI deployment. The methodology of this project involves survey and analysis of AMI development status, and an two-day AMI workshop.

Currently, the worldwide AMI deployment status is continuously collected, and the first completed region was Australia. It was found out that each economy has its own deployment plan. More important, the plan adopted the Minimum AMI Functionality Specification and Minimum AMI Service Levels Specification to ensure the quality of system integration. In addition, the interconnection with HAN (Home Area Network) and the functionality of IHD was also considered in Australia.

The APEC AMI Workshop was held on 24-25 August, 2011 in Chinese Taipei. In total 16 speakers were invited from 9 economies, and 216 participants from 7 economies attended the Workshop. The presentation files of the Workshop can be found at:

<http://www.egnret.ewg.apec.org/workshops/AMIWorkshop/index.html>

All APEC member economies which are developing their AMI can will benefit from the project. They will gain valuable experiences from field trials, policy making, system requirements, etc. As a result, effective action plans can be made to accelerate the development of AMI in the APEC region.

New Project Proposals for Funding in Session 3/2011

Two Russian project concept notes were proposed at the Meeting for endorsement, including "Piloting Smart/micro Grid Projects for Insular and Remote Localities in APEC Economies" and "Prospects for Marine Current Energy Generation in APEC Region". After briefing discussion, the EGNRET

Representatives supported those two projects, and Canada, Korea, Singapore, Chinese Taipei, Thailand, and USA agreed to be the co-sponsoring economies of the projects at the Meeting. Mr. Takao Ikeda, Japanese Representative, expressed that Japan must have an internal discussion for being a co-sponsoring economy of those projects. Later in the beginning of September, the EGNRET Secretariat received the confirmation from Japan that Japan would like to be the co-sponsoring economy of two Russian projects as well.

By September 9, 2011, the EGNRET submitted the above Russian project concept notes, and one from Thailand (endorsed at EGNRET 35) to EWG for further endorsement and ranking for funding in Session 3/2011. These 3 new project proposals are described briefly as below.

1. Best Practices in Energy Efficiency and Renewable Energy Technologies in the Industrial Sector in APEC Region (Thailand lead, US\$ 75,000 total/US\$ 50,000 APEC).

The project is cooperation with EGEE&C, and led by Thailand. The key objective of this project is to develop a report which clearly identifies the examples of successful adoption of new and renewable energy technologies combined with energy efficiency in the APEC industrial sector, the obstacles that prevent the adoption of technologies, and the applicability of lesson learned from previous reports including APEC supported activities. The final output will be suggested roadmap for the successful implementation of industrial sector new and renewable energy and energy efficiency system in APEC member economies.

2. Piloting Smart/micro Grid Projects for Insular and Remote Localities in APEC Economies (Russia lead, US\$ 162,000 total/US\$ 82,000 APEC)

The objectives of this project is to compile and share member economies' experiences in introducing new technologies for local energy systems including smart grid technologies to support sustainable development of insular and remote areas. Also, the aim of the project is to emphasize micro grid as a special case of smart grid that is designed to maximize the economic and environmental effect of tested and ready-to-use technologies for local energy systems. The outcomes of the project will provide a menu of options to APEC economies for piloting of smart/micro grid projects in the form of successful case studies, toolkits and/or specific recommendations.

3. Prospects for Marine Current Energy Generation in APEC Region (Russia lead, US\$ 188,000 total/US\$ 90,000 APEC)

APEC economies are naturally endowed with access to vast ocean and marine resources that offer potential of tidal, wave and current energy. Technology and expertise to utilize marine current energy exist in a number of APEC and non-APEC economies, but the industry is in its infancy. Information/technology sharing is needed to advance the understanding of options for marine energy production at large and marine current energy in particular. Therefore, the objectives of this project are to raise awareness of the benefits of marine energy generation with particular focus to marine current energy, and to build capacities for successful deployment of marine current generating technologies

in APEC economies.

Review of APEC Project Proposal Process

The EGNRET Secretariat emphasized that project proposals had changed since 2010. For last Session in 2011, the inter-sessional project approval schedule for BMC is as defined below:

Session 3/2011

- Submission of Concept notes: 29 September, 2011
- Committee prioritization and ranking: 3 – 13 October
- PDM prioritization (if needed): 17 – 27 October
- BMC in-principle approval: 17 – 19 October (notify 20 October);
25 – 27 October (notify 28 October)

Deadlines to submit full project proposals

Submit to APEC Secretariat	Recommendation to BMC	BMC decision	Notification
18 Nov	25 Nov	30 Nov	1 Dec
2 Dec	16 Dec	21 Dec	22 Dec

According to EWG 41 Summary Record, the United States and APEC Secretariat clarified that there would be no extension for ranking projects submitted for the third round of funding in 2011, even though the EWG 42 meeting will occur the same week as the project ranking submission deadline. The EWG will have to rank round three project submissions out of session. Therefore, the EWG must rank and submit proposals to the APEC Secretariat at least a week before EWG 42 meeting (17-21 October, 2011).

Currently, the new APEC project cycle can be described as 5 stages and 16 steps:

STAGE 1: Concept Note Preparation and Submission

1. Project Proponent (PP) reviews guidebook and prepares concept note using NEW template.
2. PP submits concept note to forum for comment, endorsement, and at least two cosponsors.
3. Originating forum prioritizes endorsed concept notes.
4. PP uploads concept note to the APEC project database by the submission deadline.

STAGE 2: Priority Assessment of Concept Notes

5. Committees and SFOM (Senior Finance Officials Meeting) prioritizes concept notes, and sorts them by rank according to the APEC-wide funding criteria.
6. Secretariat combines the rankings of committees and SFOM to determine the availability of funding for concept notes.
- 6a. Depending on the availability of funds, PDMs (Principal Decision Makers) create an APEC-wide prioritization list respecting the priority of committees and SFOM.
7. Secretariat recommends to BMC (Budget & Management Committee) in-principle approval of highest-priority concept notes that fit within

- the funding cap.
8. BMC considers concept notes and gives in-principle approval or rejects concept notes.
 9. Proponents are notified of preapproval or rejection of concept notes.

STAGE 3: Full Project Development & Quality Assessment

10. Project overseers with in principle approval develop proposals using Project Proposal template, with assistance from forum and the Secretariat.
11. Forum endorses full proposal and carries out quality assessment using Quality Assessment Framework (QAF) template.
12. Secretariat carries out quality assessment of proposal using quality criteria.
13. Secretariat recommends satisfactory-quality proposals to BMC for final approval. BMC approves or rejects.

STAGE 4: Implementation

14. Approved projects are implemented in line with the Guidebook on APEC Projects.
15. PO (Project Overseer) resubmits monitoring reports at six-month intervals using Project Monitoring Report template.

STAGE 5: Project Completion

16. PO submits a project completion report within two months of the end of the project using Project Completion Report.

In Step 12, the APEC Project Quality Criteria are called REEIS, e.g., Relevance, Effectiveness, Efficiency, Impact, and Sustainability.

The EGNRET Secretariat also mentioned that the concept notes (including title page) should be less than 3 pages, and the project proposals are to be completed using the APEC new Project Proposal template. Each project proposal should be no more than 12 A4 pages, including the budget.

Moreover, the project Quality Assessment Framework (QAF) must be submitted along with the full project proposal. A minimum of two QAFs are required. A proposing economy cannot provide a QAF assessment for its own proposal. Cosponsoring economies may provide a QAF assessment. Please note that project proponents should incorporate all QAF comments into a single consolidated document before submission. The Guidebook on APEC Projects (7th Ed.) (effective from January 1, 2011) will be a useful kit for project submission.

The useful information for project submission including 7th ed. Guidebook, forms, and resources can be found at APEC Project website directly:

<http://www.apec.org/Projects/Projects-Overview.aspx>

The above information will also be available to find linkages on EGNRET website:
http://www.egnret.ewg.apec.org/rfp/projects_submission.html

This presentation (the Overview of APEC New Project Proposal Process) can be found at EGNRET website:

<http://www.egnret.ewg.apec.org/meetings/egnret37/index.html>

Administration and Operation

After discussion, the venue and date of the next meeting (EGNRET 38) will be determined later. Dr. Cary Bloyd, the U.S. Representative mentioned that the Terms of Reference (TOR) of the EGNRET should be modified according to the new initiatives and declarations instructed by the APEC Leaders and Energy Ministers, e.g., Fukui Declaration, APEC Smart Grid Initiative (ASGI), Energy Smart Communities Initiative (ESCI). The new version of the EGNRET TOR will be drafted by the EGNRET Secretariat, and sent to EGNRET Representatives for review soon. The draft TOR will be discussed at next EGNRET meeting.

The Chair asked if there was any additional new business. There being none, EGNRET members thanked Chinese Taipei for hosting the meeting and closed the 37th meeting of the APEC Expert Group on New and Renewable Energy Technologies. Meeting minutes will be distributed and approved out of session.

Special gratitude is due to Mr. Augustine Kwan, the Communications and Outreach Officer at APEC Secretariat for his excellent coverage to exhibit the fruitful outcomes of the EGNRET 37 meeting and related events. The event media release and video interview can be found at:

<http://www.egnret.ewg.apec.org/news/index.html>

The EGNRET 37 meeting presentations are available on the website at:

<http://www.egnret.ewg.apec.org/meetings/egnret37/index.html>

and presentations of APEC Workshop on Addressing Challenges in AMI Deployment and Smart Grid in APEC Region can be found at:

<http://www.egnret.ewg.apec.org/workshops/AMIWorkshop/index.html>

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